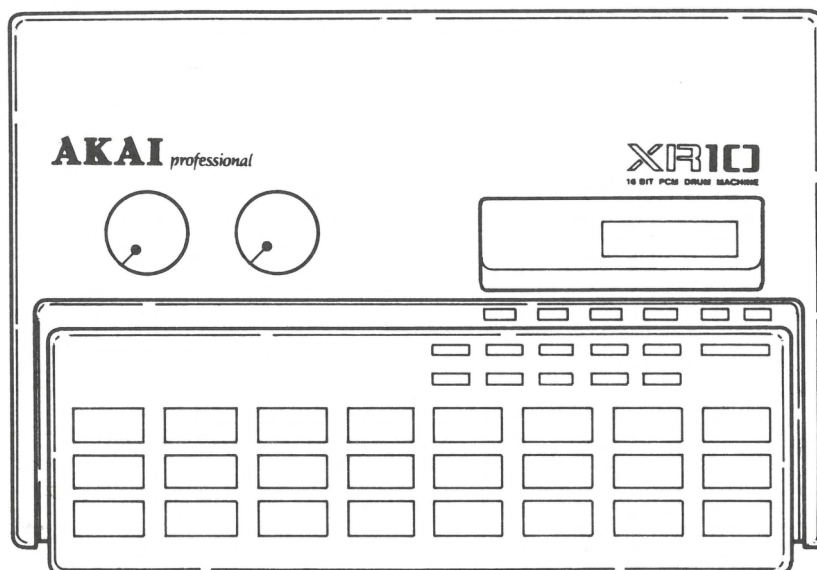


AKAI SERVICE MANUAL



16 BIT PCM DRUM MACHINE

MODEL **XR10**

SPECIFICATIONS

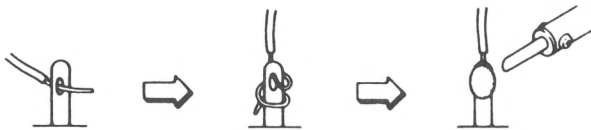
<p>Sound source</p> <p>Internal sound sources . . 65 patterns</p> <p>copy sound sources . . . 32 patterns</p> <p>Sound parameters(Memorized)</p> <p>Sound volume 0 to 31</p> <p>Sound tune -25 to +25(100 cents/step)</p> <p>Fine tune -8 to +7(6.25 cents/step)</p> <p>Pan pot L15 ←CENTER → R15</p> <p>Effect send volume . . . 0 to 31</p> <p>Decay(DCA) 0 to 31</p> <p>Hold(DCA) 0 to 31</p> <p>Sweep decay 0 to 31</p> <p>Sweep depth 0 to 31</p> <p>Sweep polarity UP/DOWN</p> <p>Reverse ON/OFF</p> <p>Velocity feel ON/OFF</p> <p>Sound select 1 to 65(Only for the user sounds)</p> <p>Memory capacity</p> <p>Preset pattern 450 varieties (50 varieties × 3 varieties, 3 fill-ins, 1 intro, 1 break, 1 ending)</p>	<p>Programmable pattern . 99 patterns(Maximum of 4 measures, maximum of 7,000 notes)</p> <p>song 20 varieties(Maximum of 99 parts)</p> <p>Sound timing resolution . . 1/384 (Fourth note = 96)</p> <p>Tempo 1 beat 40 to 296</p> <p>Display 16 characters × 2 lines LCD</p> <p>Output terminals Stereo output jacks R/L(MONO)</p> <p>Effect send output jack</p> <p>Headphone jack</p> <p>Connection terminals AC adaptor jack(12 V, 200mA)</p> <p>MIDI connector(IN/OUT)</p> <p>START/STOP jack</p> <p>FILE-IN jack</p> <p>Dimensions 350(W) × 241(D) × 68(H) mm</p> <p>Weight 1.7 kg</p>
	<p>Standard accessories</p> <p>AC adaptor 1</p> <p>Operator's manual 1</p>

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

- 1. Parts identified by the Δ (*) symbol are critical for safety. Replace only with parts number specified.
- 2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
- 3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- 4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
- 5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



- 6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

- 7. Check that replaced wires do not contact sharp edged or pointed parts.
- 8. Also check areas surrounding repaired locations.
- 9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

PRECAUTIONS FOR LITHIUM BATTERY

The lithium battery explode when heated excessively. [OBSERVE THE FOLLOWING WHEN REPLACING]

- Replace with the same make and type only
- Use soldering iron in “recommended way” only.
- Place battery in correct polarity.
- Do not short the terminals.
- Do not recharge battery.
- Do not dispose of battery in fire.



[DANGER]



[RECOMMENDED WAY]

INFORMATIONS

[ABOUT MEMORY DATA]

All relevant data are memorized in the internal ROMs and lithium battery RAM.

A: ROM contains

- 1) Wave data(2 masked ROMs)
- 2) Sound initial parameter
- 3) Preset pattern NO. 1 to 26
- 4) Pad bank initial setting NO. 1 to 10
- 5) MIDI Note initial assignment

B: RAM contains

- 1) Preset pattern NO. 27 to 50(Write protected)
- 2) Song NO. 1 to 20(Demo songs are stored in NO. 1 to 3)
- 3) Sound parameter NO. 1 to 97
- 4) User pattern NO. 1 to 99(Demo sequences use NO. 1 to 22)
- 5) Pad bank NO. 6 to 10.
- 6) MIDI Note assignment.

When the battery RAM and it’s relevant circuit fail or is replaced, all memorized data in RAM are lost.

[ABOUT THE BULK DUMP]

RAM memorized data may be lost in the course of repair. To back-up the accidental loss of customer’s data as well as factory preset data, save/load the data using BULK DUMP function to/from another XR10 or units capable of storing MIDI bulk data such as MIDI data filer, MIDI sequencer,etc..

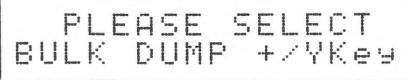
bulk dump function procedure are as follows.

A:SAVE

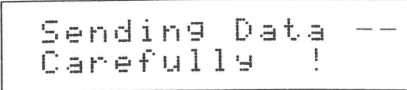
- 1. Connect MIDI cable and set the receiving unit ready to accept bulk data from XR10.
- 2. Press “MODE” button several times to set to “UTILITY MODE” as shown.



- 3. Use cursor keys “∨” and “∧” to set to “BULK DUMP” mode as shown.

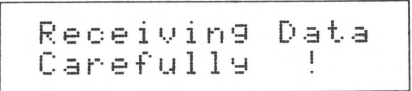


- 4. Press “+/Y” key to start sending data via MIDI.

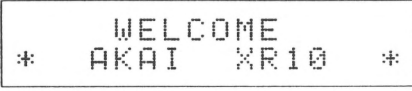


B: LOAD

- 1. Connect MIDI cable and set the transmitting unit ready to send bulk data to XR10.
- 2. Press “MODE” button several times to set to “UTILITY MODE”.
- 3. Start sending bulk data. While receiving, XR10 indicates it on display as shown.



- 4. When completed, display shows “COMPLETE” then shows the intial screen.



[ABOUT RESET]

XR10 may be reset to initialized setting by turning it on while pressing ten keys “1” and “2” simultaneously. When reset however, all memorized data in RAM including demo songs(NO. 1 to 3) and demo pattern(User pattern NO. 1 to 22), are cleared except preset patterns NO. 27 to 50.

I. CONTROLS

1-1. FRONT

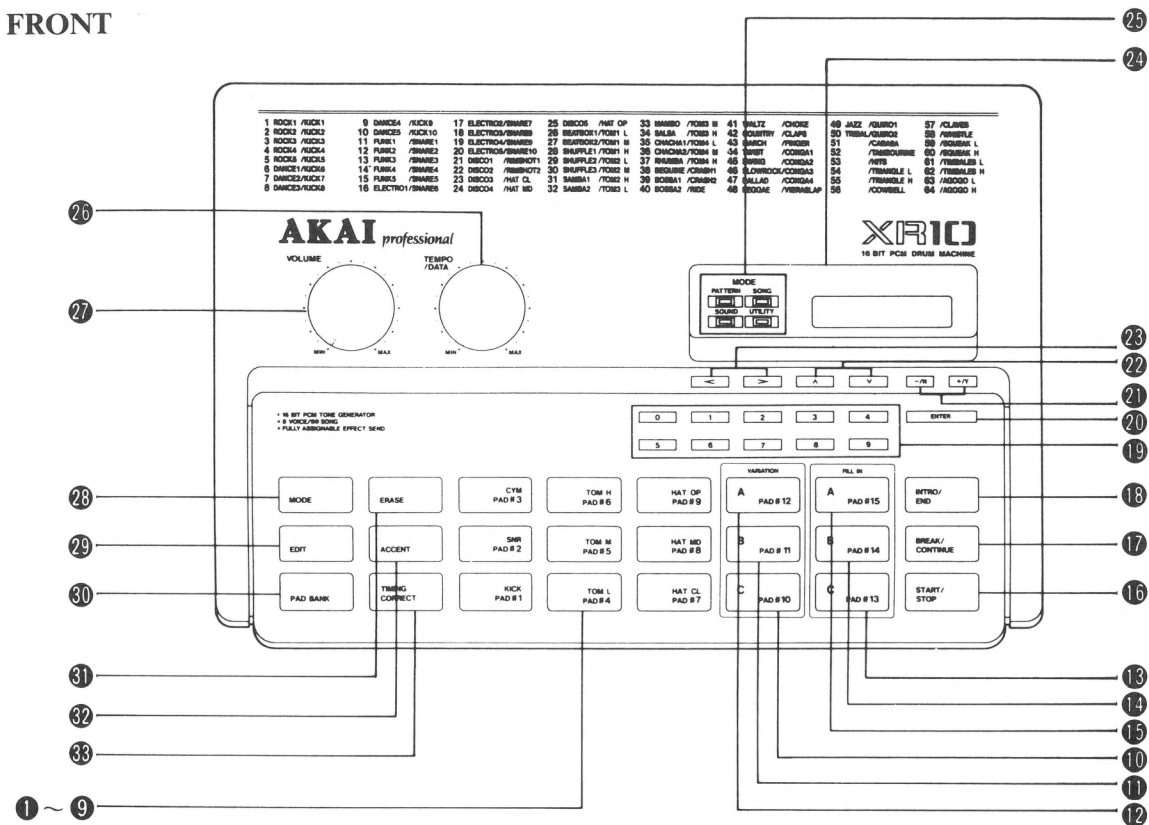


Fig. 1-1 Top view

- ① to ⑨ KEY PAD — 1 to — 9
Pad that outputs various sound. It can also be used to program the pattern data during pattern write.
- ⑩ to ⑫ KEY PAD — 10 to — 12
Pad that outputs various sound(— 10 to — 12) that are also used for selection of variation patterns from type A to C.
- ⑬ to ⑮ KEY PAD — 13 to — 15
Pad that outputs various sound(— 13 to — 15) that are also used for selection of fill-in pattern from type A to C.
- ⑯ START/STOP button
Starts or stops a pattern or song play. select ending patterns during song write.
- ⑰ BREAK/CONTINUE button
This button used to insert the break pattern during pattern play or to escape from the break pattern. Furthermore, it can be used to select the break patterns during song write.
- ⑱ INTRO/END button
This button used to start with the intro pattern, or to stop with the ending pattern during pattern play. Furthermore it can also be used to select intro patterns during song write.
- ⑲ Ten key
This key is used to select numbers or to set the value of patterns.
- ⑳ ENTER key
This key is used to perform the commands in combination with the ten key.
- ㉑ +/- key(Yes/No key)
This key is used to move a step sequence forward or backward during song write. Furthermore, it is also used to answer yes or no to perform various function. Moreover, it is also used to adjust the tempo during pattern or song play.

- ㉒ COMMAND key
This key is used to select a command or perform other functions.
- ㉓ CURSOR key
This key is used to select a preset or user pattern or perform other functions.
- ㉔ Display
This LCD can display up to 16 characters × 2 lines.
- ㉕ Mode LED
This LED will light to indicate the selected mode. Furthermore, it will flash according to the beat in the pattern mode.
- ㉖ TEMPO/DATA knob
This knob is used to adjust the tempo or to set the parameter value.
- ㉗ VOLUME knob
This knob is used to adjust the total volume.
- ㉘ MODE button
This button is used to alternate among the 4 modes.
- ㉙ EDIT button
This button is used to enter the pattern or song edit mode.
- ㉚ PAD BANK button
This button is used to select a pad bank.
- ㉛ ERASE button
This button is used to erase the data.
- ㉜ ACCENT button
This button is used to accentuate the sounds while playing or writing.
- ㉝ TIMING CORRECT button
This button is used to correct the play timing of the sounds or perform other functions.

1-2. REAR

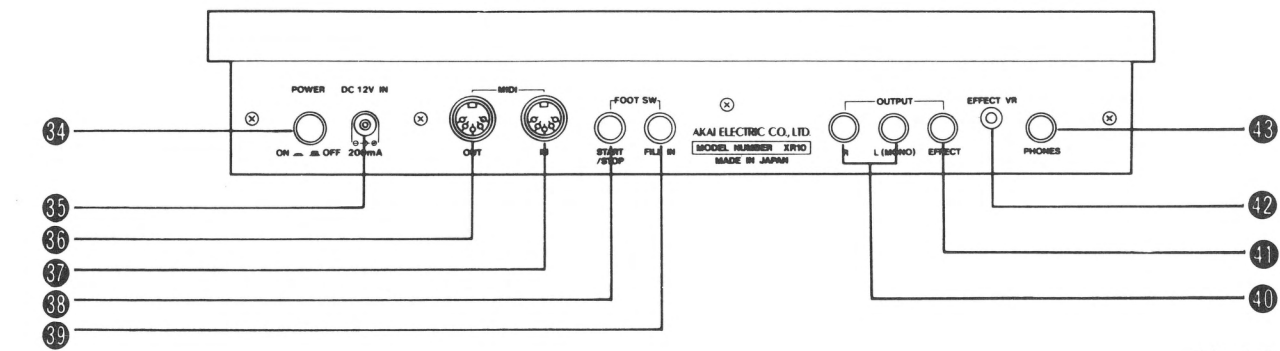


Fig. 1-2

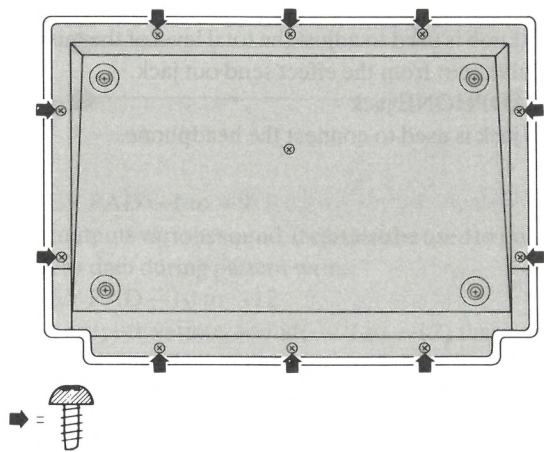
- ㉞ POWER switch
This switch is used to turn the power on or off.
- ㉟ AC adaptor jack
This jack is used to connect the AC adaptor.
- ㊱ MIDI OUT jack
This jack output MIDI clock and bulk data created by the XR10.
- ㊲ MIDI IN jack
This jack is used to input external MIDI signal.
- ㊳ and ㊴ FOOT SW jack
These jacks are used to connect the optional foot switch.

- ㊵ OUTPUT (L/MONO & R) jacks
These jacks outputs the sounds in stereo/monoaral.
- ㊶ EFFECT send output jack
This jack output the mixed sound signal to the effector or the like.
- ㊷ EFFECT send volume knob
This knob is used to adjust the total level of the mixed sound signal output from the effect send out jack.
- ㊸ HEADPHONE jack
This jack is used to connect the headphone.

II. DISASSEMBLY

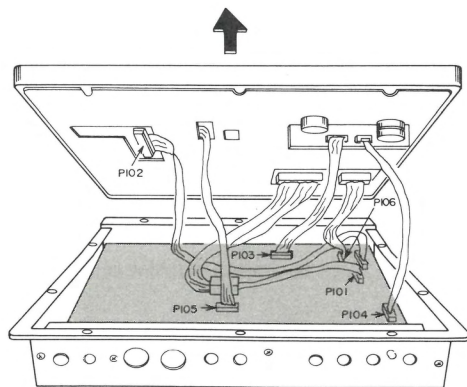
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order. When re-attaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

1. Removal of TOP and BOTTOM parts



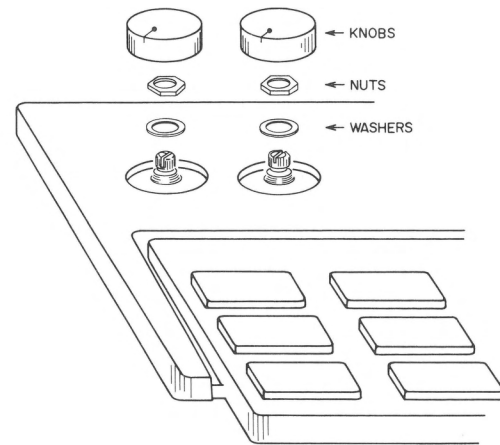
* Remove screws.

2.

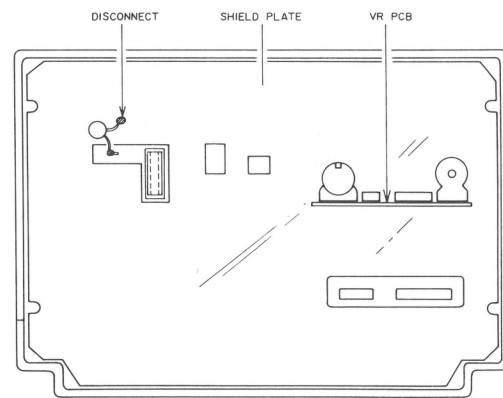


* Disconnect the connectors P101 to P106.

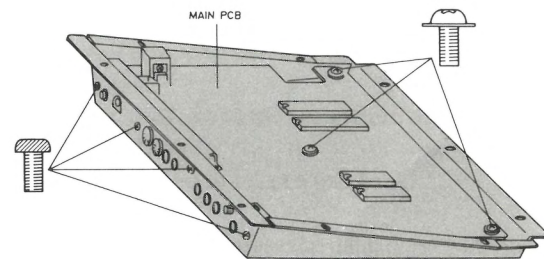
3. Removal of FRONT PANEL



4.



5. Removal of MAIN PCB



III. PRINCIPAL PARTS LOCATION

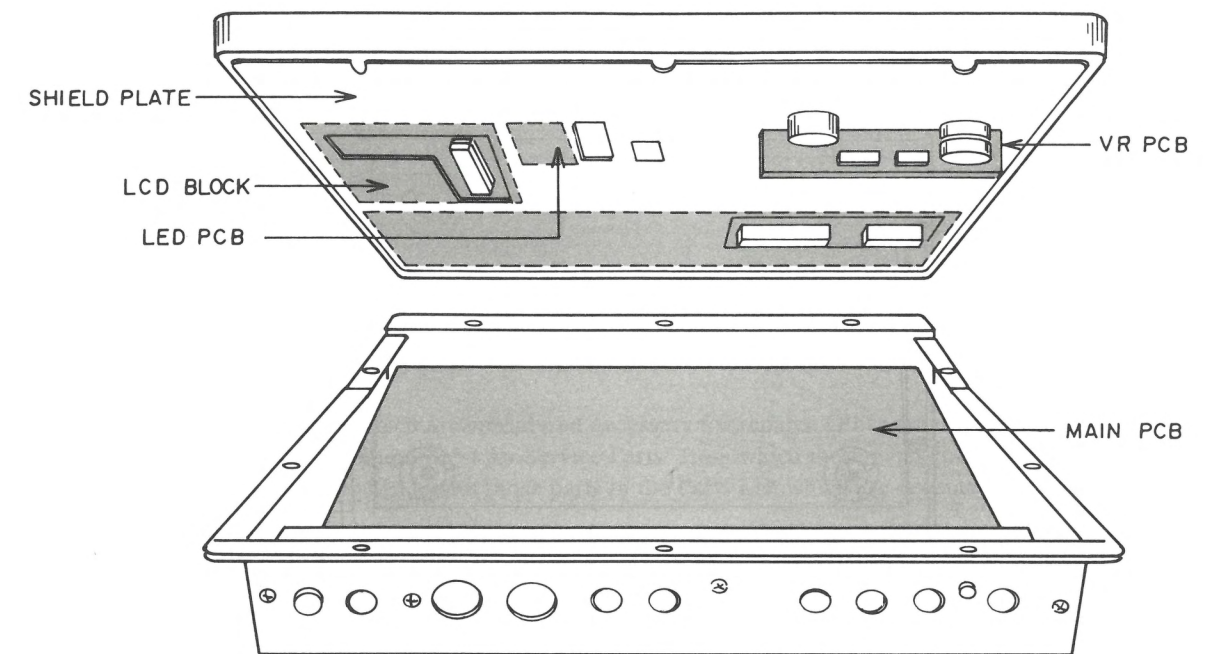


Fig. 3-1

IV. ADJUSTMENT

4-1. DISPLAY CONTRAST ADJUSTMENT

- 1) Adjust VR2 from the bottom, so that the display on the top panel is obtained reasonable contrast.

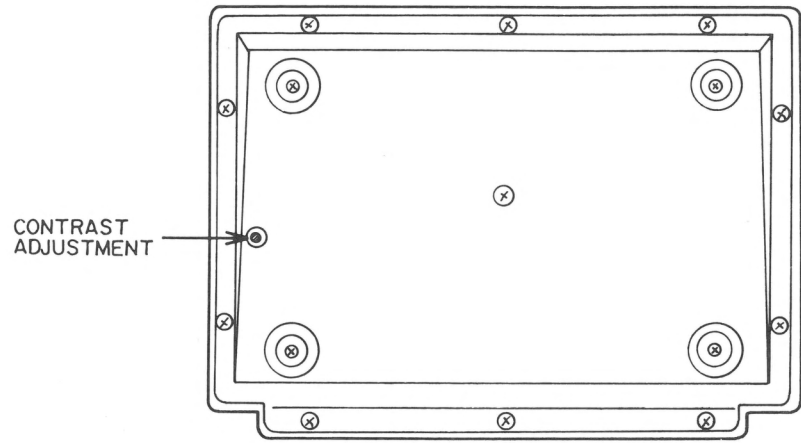


Fig. 4-1

4-2. CONFIRMATION OF OUTPUT LEVELS

- 1) Turn XR10 on while pressing ten keys “3” and “4” simultaneously to set it in test mode. It now generates 400Hz sine-wave signal to check output circuits.
- 2) Connect milli-voltmeter to each output and confirm the followings.

OUTPUT	RESOLT	CONTROL SETTING
L(MONO)	Level: 8.2 ± 1.5 dBm Distortion: Less than 1.0%	VOLUME: “MAX” TEMPO/DATA: “MAX” EFFECT VR: “MAX”
R		
EFFECT		
HEADPHONE	Level: 8.2 ± 1.5 dBm Distortion: Less than 1.0%	VOLUME: “MAX” TEMPO/DATA: “MAX”

Also, all 4 mode indicator LEDs light up when any one of the operation buttons is pressed, except ERASE, ACCENT and TIMING CORRECT buttons, to check OPERATION PCB. Turn off the unit to exit from test mode.

4-3. CONFIRMATION OF RESIDUAL NOISE

- 1) Turn XR10 on, and connect milli-voltmeter to each output through the IHF-A filter, then Confirm the following.

OUTPUT	RESOLT	CONTROL SETTING
L(MONO)	−85 dBm(IHF-A)	VOLUME: “MAX” TEMPO/DATA: “MAX”
R		
EFFECT		
HEADPHONE	−78 dBm(IHF-A)	

V. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the “Common List for Service Parts” from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and “Common List for Service Parts” will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

b) PC Board

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universa Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Janan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

△(*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

△(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	AX-394174J	AC ADAPTER XR10-A(A,C) [C,A,Y1]
2	AX-394171J	AC ADAPTER XR10-A(B) [B]
3	AX-394173J	AC ADAPTER XR10-A(E,V) [E,V]
4	AX-394175J	AC ADAPTER XR10-A(J) [J]
5	AX-394172J	AC ADAPTER XR10-A(S) [S]
6	*EC-379161	BATTERY LITHIUM BR2330-1HF
7	ED-388539J	D LED GL-3HD43 [PATTEN]
8	ED-389834J	D SILICON DS135E-FB2 F12 100/1
9	ED-344280	D SILICON H GMA-01-FY2 F05
10	EH-389997J	COMP D DAN601
11	EH-389998J	COMP D DAN801
12	EH-389593J	COMP R RGLD4X102J
13	EH-378418	COMP R RGLD4X223J
14	EH-383096J	COMP R RGLD6X472J
15	EH-386207J	FILTER LC LP BL-30VF
16	EI-388749J	IC HM62256LP-12
17	EI-389592J	IC LC7881-C
18	EI-378295	IC MBM27C256-15CZ-G
19	EI-392701J	IC MB834200A-20 0D2
20	EI-392754J	IC MB834200A-20 0D3
21	EI-353227	IC M5216L
22	EI-393324J	IC M5218AL
23	EI-364888	IC M5223L
24	EI-336995	IC NJM78L05A
25	EI-355655	IC NJM7805A
26	EI-364253	IC PST520D-2
27	EI-372008	IC TMP82C37AP-5
28	EI-392699J	IC TMW4007-03
29	EI-392700J	IC TMW4008-10
30	EI-384182J	IC UPD78C10G-36
31	EI-354123	OSC CE CSA120MT 12.000000MHZ
32	EJ-386137J	DIN J YKF51-5033 5P [MIDI]
33	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [OUT PUT R]
34	EJ-355011	PHONE J 3P YKB21-5010 6.3 [PHONES]
35	EJ-386150J	SOCKET INLET YKB31-0001A 1P
36	EM-386210J	IND LCD LM16257
37	*ES-386146J	SW PUSH SPUN12 1-02-03N [POWER]
38	ET-354167	DETECTOR PC900V
39	ET-392711J	TR DTC143TF
40	ET-383189J	TR 2SC2960 E,F
41	ET-360137	TR 2SC3330 U,V F05
42	EV-386209J	VR ROTARY EVH-CCAP15B14 B103 [TEMPO/DATA]
43	EV-386208J	VR ROTARY EWK-EPAP15A15 A104X2 [VOLUME]
44	EV-392704J	VR ROTARY RK09K1110 A104 [EFFECT VR]

2. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-L4008A020A	PC(#) MAIN BLK XR10
2	BA-L4008A030A	PC(#) OPERATION BLK XR10

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARD.

- * MAIN P.C BOARD
- * LED P.C BOARD

PC (#) OPERATION BLK CONSISTS OF FOLLWING P.C BOARD

- * OPERATION P.C BOARD
- * VR P.C BOARD

3. MAIN P.C BOARD

Ref. No.	Part No.	Description
BT2	*EC-379161	BATTERY LITHIUM BR2330-1HF
D1	ED-344280	D SILICON H GMA-01-FY2 F05
D2	ED-344280	D SILICON H GMA-01-FY2 F05
D6	ED-389834J	D SILICON DS135E-FB2 F12 100/1
D7	ED-344280	D SILICON H GMA-01-FY2 F05
F1	EH-386207J	FILTER LC LP BL-30VF
F2	EH-386207J	FILTER LC LP BL-30VF
F3	EH-386207J	FILTER LC LP BL-30VF
IB1	EH-378418	COMP R RGLD4X223J
IB2	EH-378418	COMP R RGLD4X223J
IC1	EI-384182J	IC UPD78C10G-36
IC2	EI-378295	IC MBM27C256-15CZ-G
IC3	EI-388749J	IC HM62256LP-12
IC4	EI-392699J	IC TMW4007-03
IC5	EI-392700J	IC TMW4008-10
IC6	EI-372008	IC TMP82C37AP-5
IC7	EI-372008	IC TMP82C37AP-5
IC8	EI-392701J	IC MB834200A-20 0D2
IC9	EI-392754J	IC MB834200A-20 0D3
IC10	EI-389592J	IC LC7881-C
IC11	EI-389592J	IC LC7881-C
IC12	EI-364888	IC M5223L
IC13	EI-364888	IC M5223L
IC14	EI-393324J	IC M5218AL
IC15	EI-353227	IC M5216L
IC16	EI-336995	IC NJM78L05A
IC17	EI-355655	IC NJM7805A
IC18	EI-364253	IC PST520D-2
J1	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [OUT PUT R]
J2	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [OUT PUT L[MONO]]
J3	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [OUT PUT EFFECT]
J4	EJ-355011	PHONE J 3P YKB21-5010 6.3 [PHONES]
J5	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [FOOT SW START/STOP]
J6	EJ-386449J	PHONE J 2P YKB21-5012 6.3 [FOOT SW FILL IN]
J7	EJ-386137J	DIN J YKF51-5033 5P [MIDI]
J8	EJ-386150J	SOCKET INLET YKB31-0001A 1P
L7	EO-394178J	COIL FIX 2 SBT-0240
L8	EO-394178J	COIL FIX 2 SBT-0240
PH1	ET-354167	DETECTOR PC900V
R24	ER-366065	R OMF H S12 FS 1W 470J
R25	ER-366065	R OMF H S12 FS 1W 470J
SW1	*ES-386146J	SW PUSH SPUN12 1-02-03N [POWER]
TR1	ET-383189J	TR 2SC2960 E,F
TR2	ET-360137	TR 2SC3330 U,V F05
TR3	ET-360137	TR 2SC3330 U,V F05
TR4	ET-383189J	TR 2SC2960 E,F
VR1	EV-392704J	VR ROTARY RK09K1110 A104 [EFFECT VR]
VR2	EV-371278	R S-FIX H VM6CKPVB 0.30W 501
X1	EI-354123	OSC CE CSA120MT 12.000000MHZ
1	EZ-200473	SILICON RUBBER SHEET TC-30
2	ZW-632226	WASHER INSULATOR (BUSH M)

4. LED P.C BOARD

Ref. No.	Part No.	Description
D8	ED-388539J	D LED GL-3HD43 [PATTEN]
D9	ED-388539J	D LED GL-3HD43 [SONG]
D10	ED-388539J	D LED GL-3HD43 [UTILITY]
D11	ED-388539J	D LED GL-3HD43 [SOUND]
IB3	EH-389593J	COMP R RGLD4X102J

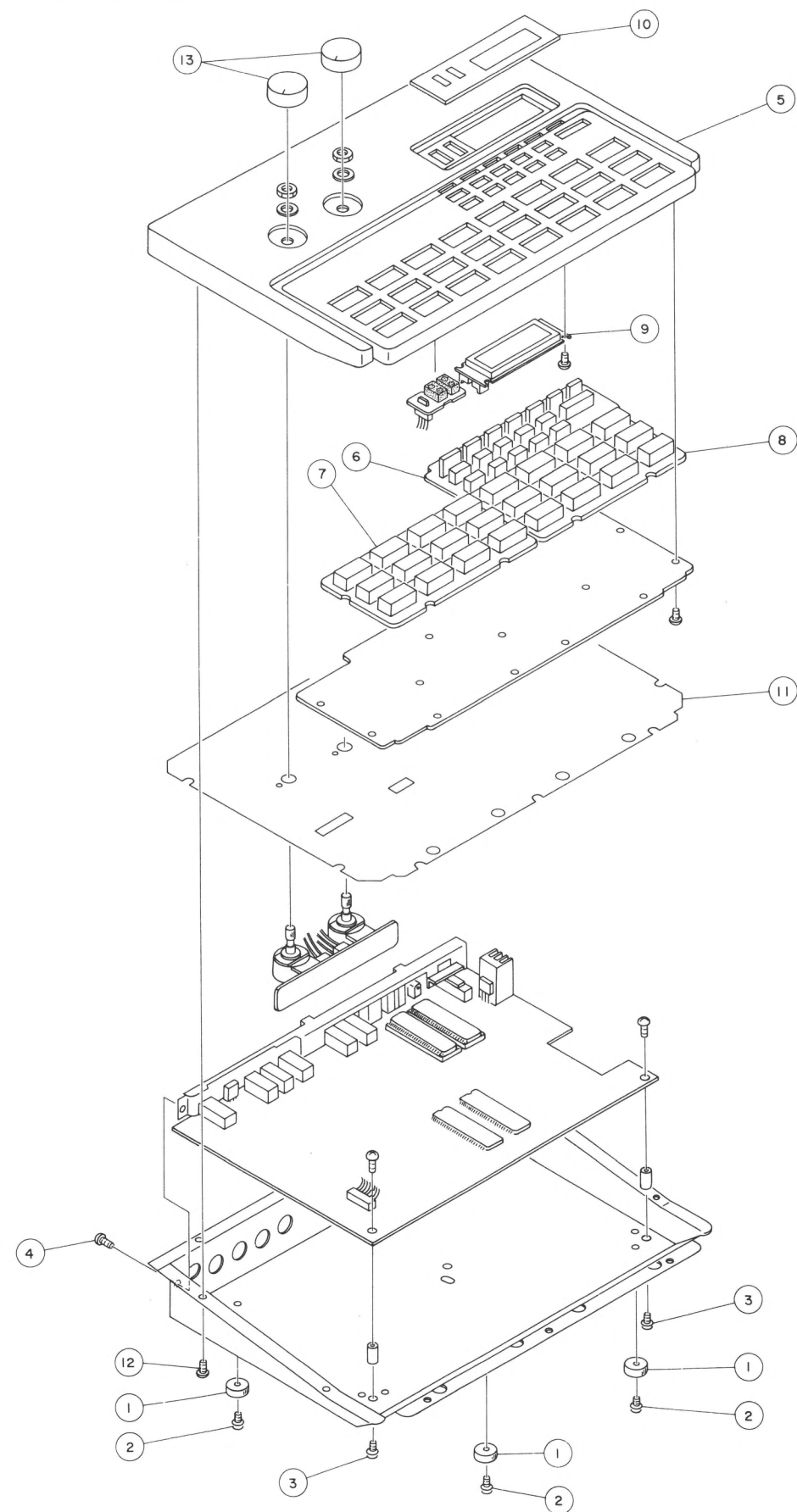
5. OPERATION P.C BOARD

Ref. No.	Part No.	Description
D11	EH-389998J	COMP D DAN801
D12	EH-389998J	COMP D DAN801
D13	EH-389998J	COMP D DAN801
D14	EH-389997J	COMP D DAN601
D15	EH-389997J	COMP D DAN601
D16	EH-389997J	COMP D DAN601
IB4	EH-383096J	COMP R RGLD6X472J
TR4	ET-392711J	TR DTC143TF
TR5	ET-392711J	TR DTC143TF
TR6	ET-392711J	TR DTC143TF
TR7	ET-392711J	TR DTC143TF
TR8	ET-392711J	TR DTC143TF
TR9	ET-392711J	TR DTC143TF

6. VR P.C BOARD

Ref. No.	Part No.	Description
VR1	EV-386208J	VR ROTARY EWK-EPAP15A15 A104X2 [VOLUME]
VR2	EV-386209J	VR ROTARY EVH-CCAP15B14 B103 [TEMPO/DATA]

FINAL ASSEMBLY BLOCK



7. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	SA-349332	FOOT
2	ZS-377926	ST BR30X05STL BNI C080
3	ZS-608477	PAN30X04STL BNI
4	ZS-345272	ST BR30X06STL BNI
5	SP-392683J	PANEL FRONT
6	SB-392085J	BUTTON TEN KEY
7	SB-392684J	BUTTON OPERATE L
8	SB-392086J	BUTTON OPERATE R
9	EM-386210J	IND LCD LM16257
10	SE-392685J	WINDOW PANEL
11	SZ-392713J	SHIELD PANEL
12	ZS-351204	PT BR30X06STL BNI
13	SK-392686J	KNOB(A)

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

8. ACCESSORY

Ref. No.	Part No.	Description
1A	AX-394175J	AC ADAPTER XR10-A(J) [J]
1B	AX-394174J	AC ADAPTER XR10-A(A,C) [C,A,Y1]
1C	AX-394173J	AC ADAPTER XR10-A(E,V) [E,V]
1D	AX-394171J	AC ADAPTER XR10-A(B) [B]
1E	AX-394172J	AC ADAPTER XR10-A(S) [S]

INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX-394171J	1-2	EJ-355011	3-J4				
AX-394171J	8-1D	EJ-386137J	1-32				
AX-394172J	1-5	EJ-386137J	3-J7				
AX-394172J	8-1E	EJ-386150J	1-35				
AX-394173J	1-3	EJ-386150J	3-J8				
AX-394173J	8-1C	EJ-386449J	1-33				
AX-394174J	1-1	EJ-386449J	3-J1				
AX-394174J	8-1B	EJ-386449J	3-J2				
AX-394175J	1-4	EJ-386449J	3-J3				
AX-394175J	8-1A	EJ-386449J	3-J5				
BA-L4008A020A	2-1	EJ-386449J	3-J6				
BA-L4008A030A	2-2	EM-386210J	1-36				
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ED-344280	1-9	EO-394178J	3-L8				
ED-344280	3-D1	ER-366065	3-R24				
ED-344280	3-D2	ER-366065	3-R25				
ED-344280	3-D7	ES-386146J	1-37				
ED-388539J	1-7	ES-386146J	3-SW1				
ED-388539J	4-D8	ET-354167	1-38				
ED-388539J	4-D9	ET-354167	3-PH1				
ED-388539J	4-D10	ET-360137	1-41				
ED-388539J	4-D11	ET-360137	3-TR2				
ED-389834J	1-8	ET-360137	3-TR3				
ED-389834J	3-D6	ET-383189J	1-40				
EH-378418	1-13	ET-383189J	3-TR1				
EH-378418	3-IB1	ET-383189J	3-TR4				
EH-378418	3-IB2	ET-392711J	1-39				
EH-383096J	1-14	ET-392711J	5-TR4				
EH-383096J	5-IB4	ET-392711J	5-TR5				
EH-386207J	1-15	ET-392711J	5-TR6				
EH-386207J	3-F1	ET-392711J	5-TR7				
EH-386207J	3-F2	ET-392711J	5-TR8				
EH-386207J	3-F3	ET-392711J	5-TR9				
EH-389593J	1-12	EV-371278	3-VR2				
EH-389593J	4-IB3	EV-386208J	1-43				
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EH-389998J	5-D11	EZ-200473	3-1				
EH-389998J	5-D12	SA-349332	7-1				
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EI-392700J	1-29						
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EI-392701J	1-19						
EI-392701J	3-IC8						
EI-392754J	1-20						
EI-392754J	3-IC9						
EI-393324J	1-22						
EI-393324J	3-IC14						
EJ-355011	1-34						

ABBREVIATIONS FOR THE SERVICE MANUAL

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AMP (Amp)	AMPlifier	MINI	MINIum
BBD	Backet Brigade Diode	MIX	MIXer
BCD	Binary Code Decimal	MOD	MODulation
B.DOWN	Brak Down	OSC	OSCillator
B.UP	Back UP	RAM	Random Access Memory
CE	Chip Enable	RD	ReaD
CH	Channel	REG	REGulator
COMP	COMParator	RESO	RESOnance
CONT	CONTrol	RL	ReLay
CV	Control Voltage	ROM	Read Only Memory
D/A	Digital to Analogue	S/H	Sample and Hold
EG	Envelope Generator	SW	SWitch
EXT	EXTernal	THRU	THRoUgh
FREQ	FREQuency	TRANS	TRANSpouse
HPF	High Pass Filter	U	Upper
INH	INHibit	VA	Voltage Analog
INT	INTerrupt	VCA	Voltage Controlled Amplifier
INV	INVerter	VCF	Voltage Controlled Filter
L	Lower	VR	Variable Resistor
LFO	Low Frequency Oscillator	VREF	REFerence Voltage
MAX	MAXimum	WR	WRite
*MEMO	MEMOry		
MIDI	Musical Instrument Digital Interface		

AKAI ELECTRIC CO., LTD.

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SERVICE DEPARTMENT TEL: TOKYO (745)9884 TELEX: J26261
Printed No. 891130-A1-350 Printed Date December 25, 1989
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AKAI

MODEL **XR10**

SCHEMATIC DIAGRAMS AND PC BOARDS

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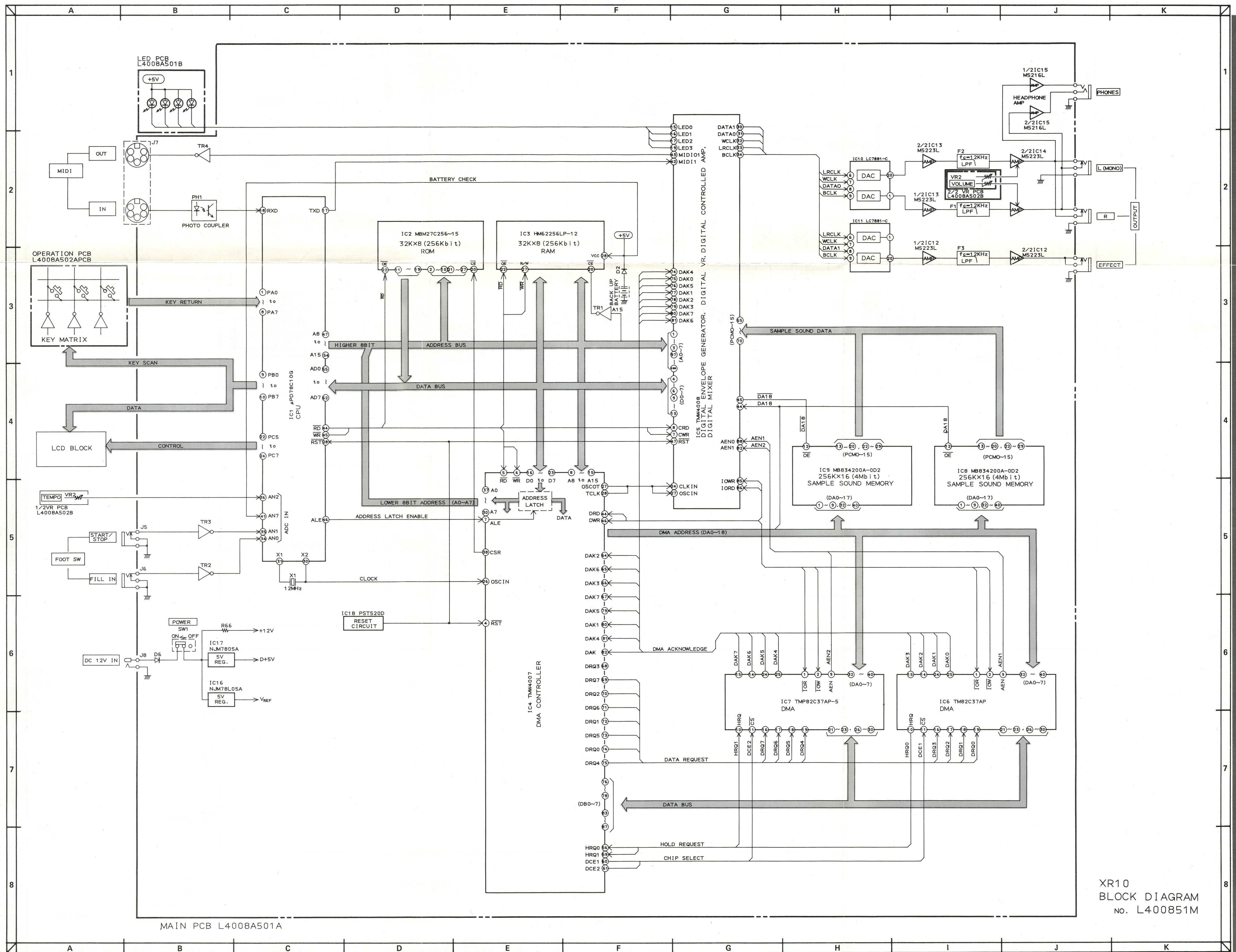
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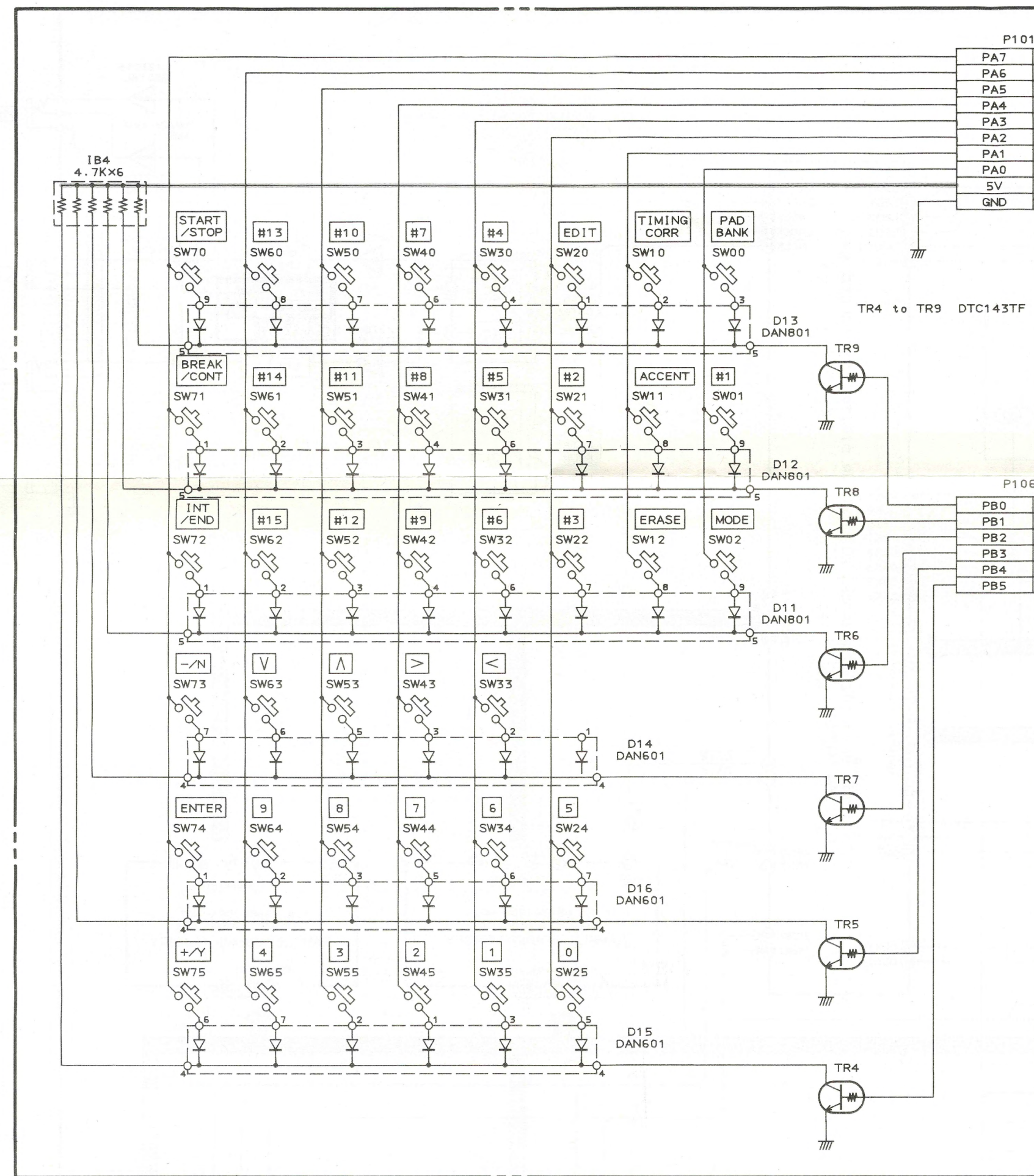
INFORMATION OF ICS

Name of IC	FUNCTIONS
HM62256LP-12	32k x 8 bit(256k bit) SRAM
LC7881-C	16 bit D/A convertor
MB834200-0D2	256k × 16 bit(4M bit) MASK ROM
MBM27C256-15	32k × 8 bit(256k bit) EPROM
TMP82C37AP-5	Multi mode DMA controller
TMW4007-03	Gate array (DMA controller, etc.)
TMW4008-10	Gate array (Digital Envelope generator, digital VRs, digital controlled Amp, and digital mixer, etc.)
μPD78C10G	8 Bit CPU with A/D convertors

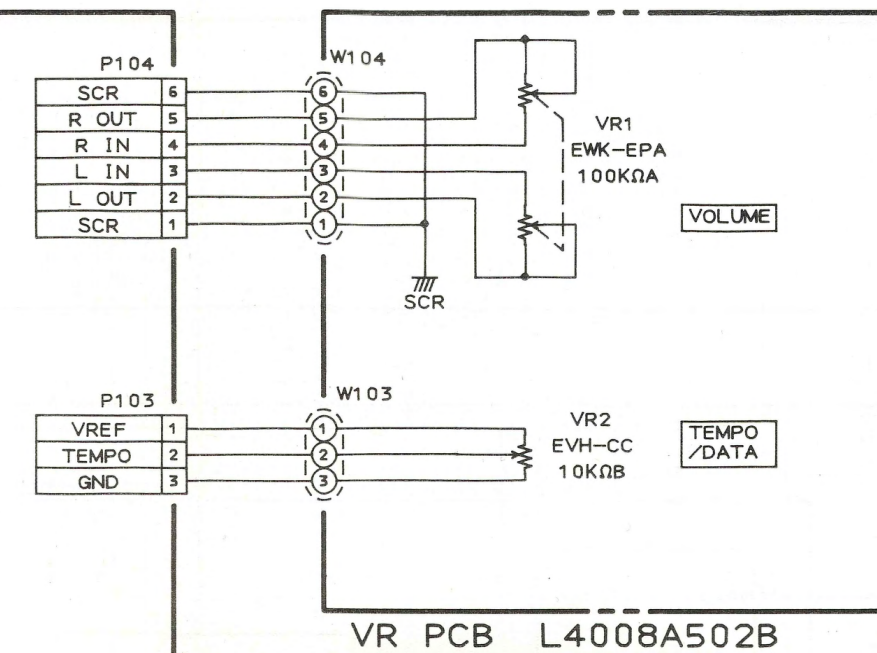
LC7881-1 (16 Bit D/A convertor)

Pin No.	SYMBOL	FUNCTIONS
1	CH 1 OUT	Ch. 1 output
2	Vref H1	Reference voltage "H" input terminal 1
3	Vref H2	Reference voltage "H" input terminal 2
4	Vdd	+5 V Power supply
5	WCLK 2	Word clock 2 input
6	LRCK	LR clock input. "H": Ch. 1, "L": Ch. 2
7	WCLK 1	Word clock 1 input
8	DATA	Digital audio data input
9	BCLK	Bit clock input
10	Vdd	+5V Power supply
11	TSTOUT	Output terminal for test
12	TST 1	Input terminal for test
13	TST 2	Input terminal for test
14	IF	Interface select control input "H": Digital audio data is input from the MSB first "L": Digital audio data is input from the LSB first
15	GND	Ground terminal
16	Vref L1	Reference voltage "L" input terminal 1
17	GND	Ground terminal
18	Vref L2	Reference voltage "L" input terminal 2
19	NC	No connection
20	CH 2 OUT	Ch. 2 output

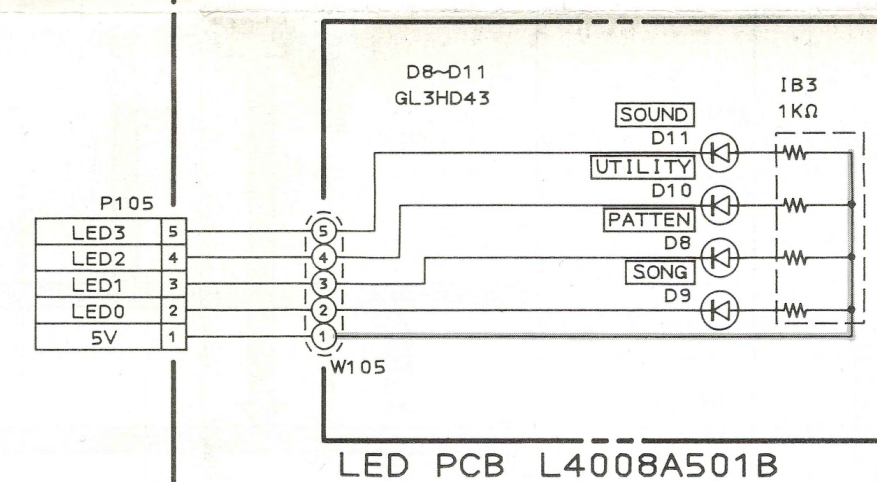




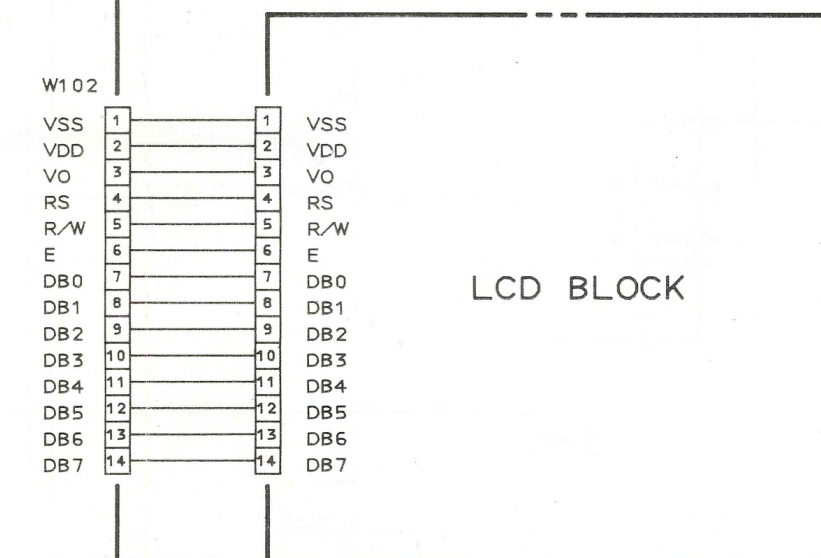
OPERATION PCB L4008A502A



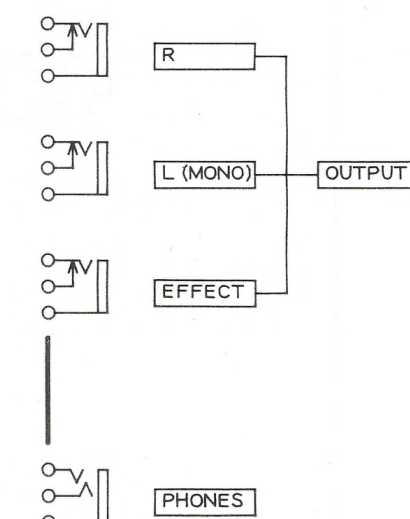
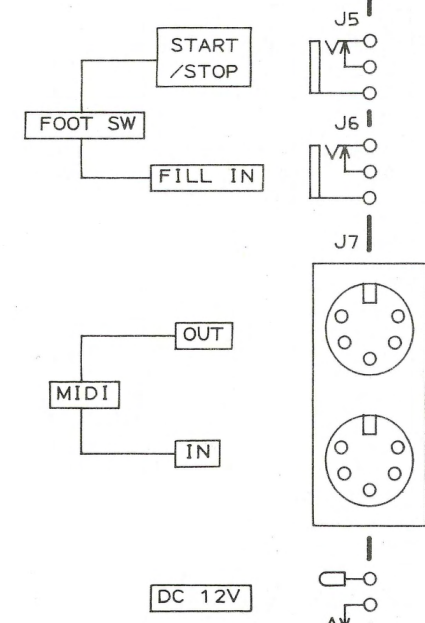
VR PCB L4008A502B



LED PCB L4008A501B

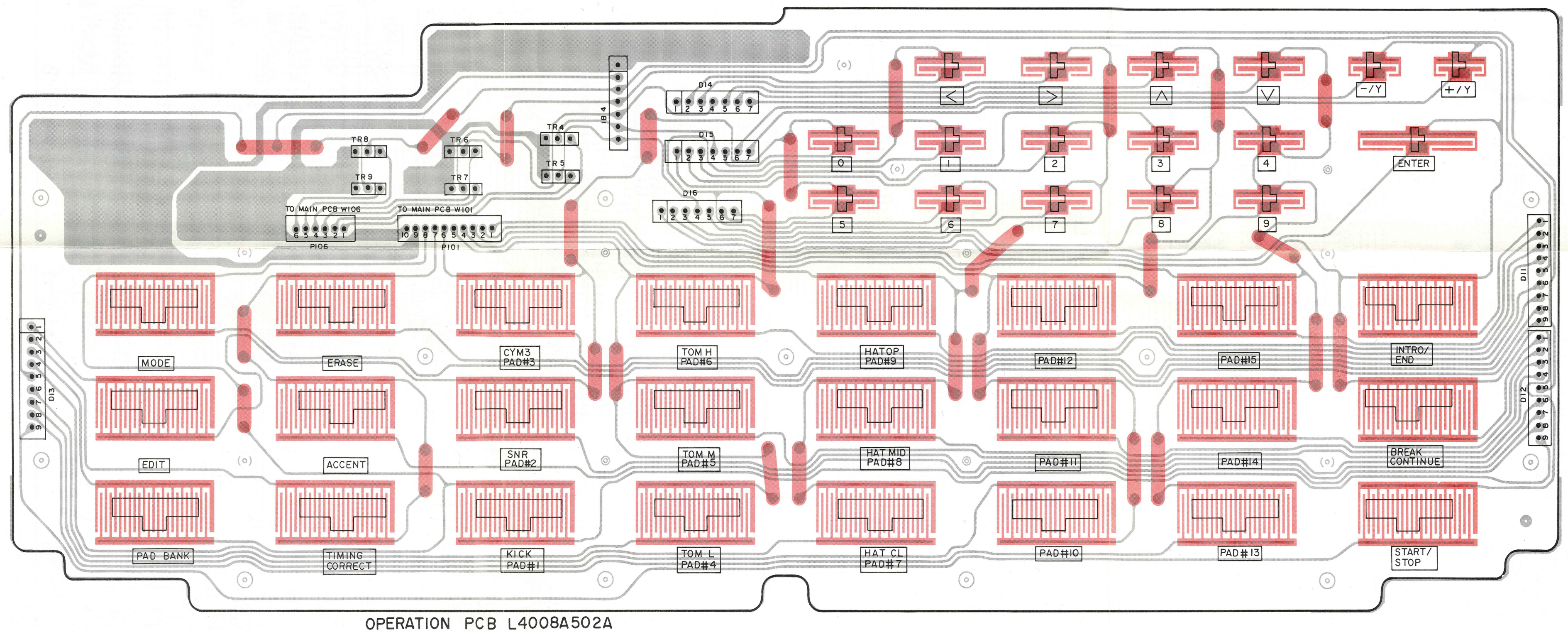


MAIN PCB
L4008A501A



XR10
MAIN
CONNECTION DIAGRAM
NO. 2-1 L400801M

— B (POWER SUPPLY) LINE

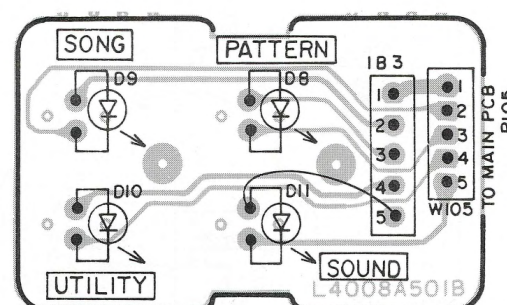


OPERATION PCB L4008A502A

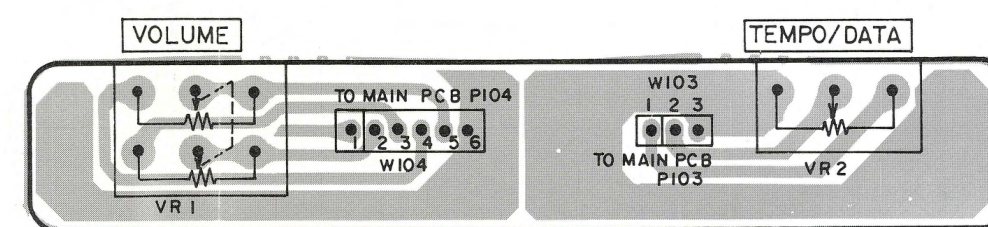
B
• • • = NPN TRANSISTOR



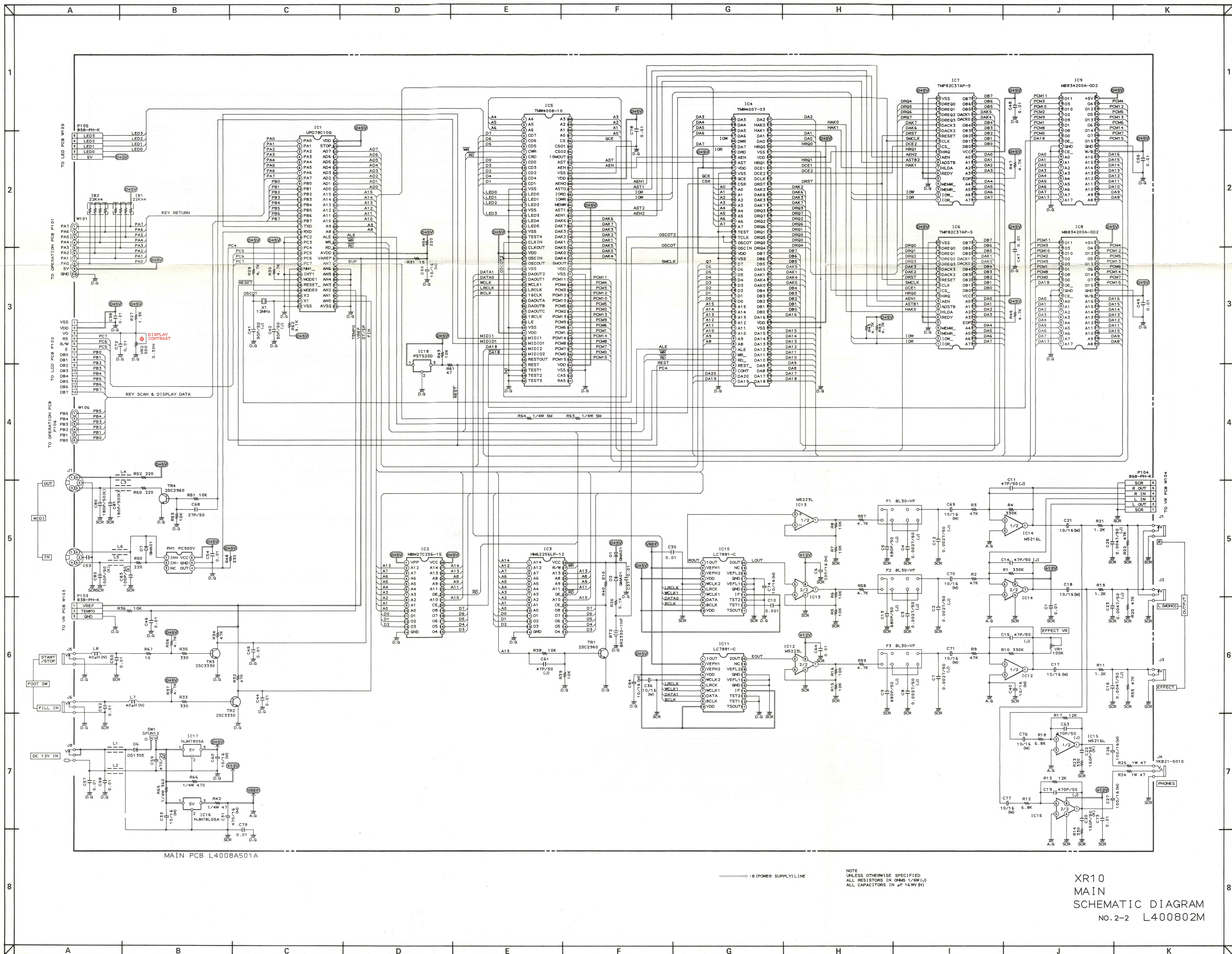
DTC143TF



LED PCB L4008A501B

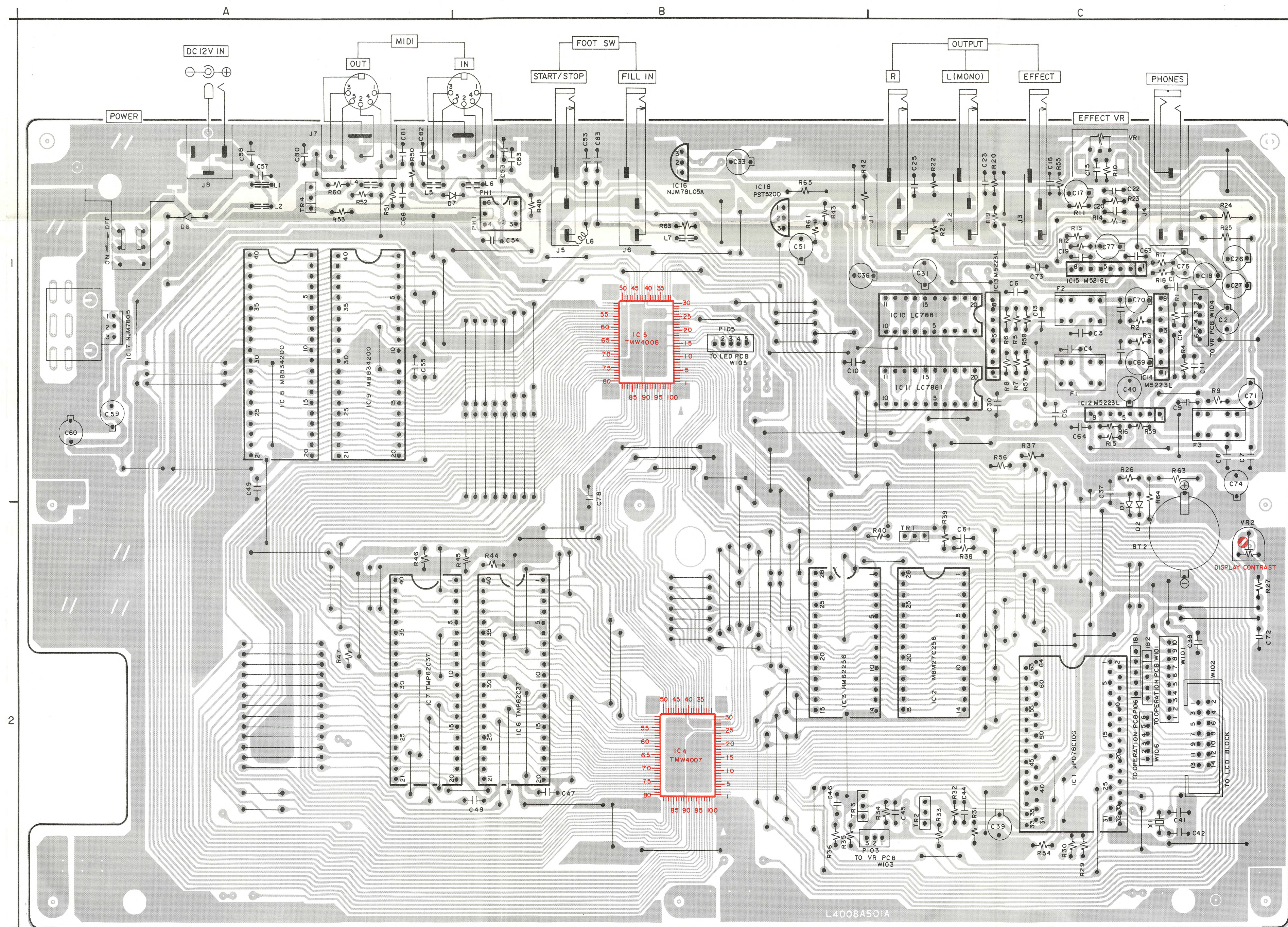


VR PCB L4008A502B



NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN P.F. 16W (N)

XR10
MAIN
SCHEMATIC DIAGRAM
NO.2-2 L400802M



LOCATION OF COMPONENTS

ICS

IC1.....C2
IC2.....C2
IC3.....B2
IC4.....B2
IC5.....B1
IC6.....B2
IC7.....A2
IC8.....A1
IC9.....A1
IC10.....C1
IC11.....C1
IC12.....C1
IC13.....C1
IC14.....C1
IC15.....C1
IC16.....B1
IC17.....A1
IC18.....B1

TRANSISTORS

TR1.....C1
TR2.....C1
TR3.....B2
TR4.....A1

CONNECTORS

P103.....B,C2
P104.....C1
P105.....B1
W101.....C2
W102.....C2
W106.....C2



2SC2960
2SC3330

B
● ● ● = NPN TRANSISTOR

MAIN PCB L4008A501A